



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D206-642-341BL
Job Sheet 186096



Part No: D206-642-341BL

Job Qty: 1 ea

Part Name: Replacement Skidtube (Fits LH or RH)



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 11/9/18

Job Tracking No:

Due Date: 12/14/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG D2650 REV.F(DEO) IPP Rev: H 05.10.11 Added D3429-1 per CHG004 KJ/CP/JLM IPP Rev: I 08-09-29 revF as per dwg DD verified by: EC Est Rev: J 09-03-02 as per DSI9440 rev.a DD verified by: EC IPP rev K 10.08.03 chg ms27039-1-08 for "C" type EC ver: DD IPP Rev: L 12.11.22 now swage per ecn12-679 DD ver: JLM IPP Rev: M 14.04.25 ECN14-520 DD ver: JLM IPP REV: N 15.10.09 ADDED BL DD VERF: JLM IPP REV: O 16.01.22 PAR16-484 DD VERF: JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea	12/14/18	12/14/18	0.00	0.00	Start Up Skid tubes-1		
110	Skid tubes	1 pcs	12/14/18	12/14/18	0.00	1.58	Skid tubes-2		TF MCG
115	QC	1 pcs	12/14/18	12/14/18	0.00	0.00	QC5		PD 13-11-24
116	QC	1 pcs	12/14/18	12/14/18	0.00	0.00	QC9		PD 13-11-21
120	HandFinish	1 pcs	12/14/18	12/14/18	0.00	1.17	HandFinish1		DAS 13-11-22
125	QC	1 pcs	12/14/18	12/14/18	0.00	0.00	QC7-1		60
130	Skid tubes	1 pcs	12/14/18	12/14/18	0.00	1.58	Skid tubes-2		9-89 MCG
140	QC	1 pcs	12/14/18	12/14/18	0.00	0.00	QC5		DE
150	Skid tubes	1 pcs	12/14/18	12/14/18	0.00	1.58	Skid tubes-2		TF DAS
180	QC	1 pcs	12/14/18	12/14/18	0.00	0.00	QC5		38
190	HandFinish	1 pcs	12/14/18	12/14/18	0.00	1.17	HandFinish2		D-R 18-11-29
200	Outsource	1 pcs	12/14/18	12/14/18			ATE003-VC		DEC 0 4 2018
205	QC	1 pcs	12/14/18	12/14/18	0.00	0.00	QC6		38
210	QC	1 pcs	12/14/18	12/14/18	0.00	0.00	QC14		50
220	HandFinish	1 pcs	12/14/18	12/14/18	0.00	1.17	HandFinish4		DEC 18-12-25
230	QC	1 pcs	12/14/18	12/14/18	0.00	0.00	QC3		DEC 0 5 2018
240	QC	1 pcs	12/14/18	12/14/18	0.00	0.00	QC5		DEC 0 5 2018
250	Packaging	1 pcs	12/14/18	12/14/18	0.00	0.00	Packaging3-1		DEC 1 2 2018
255	DC	1 pcs	12/14/18	12/14/18	0.00	0.00	DC		DEC 1 1 2018
260	QC21-FG	1 Ea	12/14/18	12/14/18	0.00	0.00	QC21		DEC 1 1 2018

Part Op 110 - 1-Deburr Fwd edge of tube 2-Scribe "Identify Batch Number" 3-Remove ridge on inside of Fwd edge of tube as per Descriptions: Dwg D2650 4-Weld Fwd Cap as per Dwg D2650. Use aluminum rod. Grind D2647 to fit as required. A/R Aluminum Rod 136158/138673 5-Grind weld flush to cap on top surface only. 6-Cut aft end to length as per dwg D2650 7-Drill pilot holes using drill Jig DT8168A (A & B) and DT8025. 8-Drill holes for wearplates using DT 8028-5. Open to Ø 0.297". 9-Open Aft Cap Hole using #6 Drill Bit 10-Open holes for Tow Ring to Ø 0.625" as per Dwg D2650, D2650-5 Drilling Detail 11-Remove inner indexing ridge on aft end of skid tubes as per Dwg D2650 12- Ream holes to finished size as per Dwg D2650, D2650-5 Drilling Detail (without cutting fluid) 13-Deburr.

130 - 1- Bond D2654-5 web in place as per QSI 015 Ensure holes line up Allow 12 Hrs. cure time before cutting Start

Date: 18-11-26 Time: Finish Date: Time: A/R Sikaflex-291 M138943

Sikaflex expiry date: 19-03-2020

150 - 1- Insert D4720-1 Spacer. Swage to 0.313" X 0.75" DP per QSI 002. Trim and grind flush per QSI 002

200 - ISSUE PO 04907 Prime and Paint DELFLEET BLUE

220 - 1-Install inserts & wearpads as per dwg D2922. Use a drop of Sikaflex inside insert holes before installing wearpad/wearplate. A/R Sikaflex-291 1138459 Sikaflex expiry date: 05/19. 2-Install O-Rings D2651-3 on plugs D2651-1 with Petroleum Jelly and install plugs as per Dwg D2650. Clean excess adhesive 3-Install MS27039-4-06 Screw 4-Inspect for foreign object per QSI 024 5-Install D2646 Aft Cap and seal with SikaflexClean excess adhesive A/R Sikaflex-291 _____ Sikaflex expiry date: _____ 6- Install D2680-041 Nut Plate as per Dwg D2650 7-Wing Walk as per Dwg D2650-5 and QSI 005 4.4 Batch: _____

250 - Identify and pack for shipping as per PPP D206-642-341 Location:FG083

255 - Photocopy bluefile and create labels per PPP D206-642-341 CHG005

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D2620	Skidtube, 206 Skidtube	1 Ea (1 ea)	90-Start up Operation	5108902
D2647	Cap	1 Ea (1 ea)	110-Skidtubes	5038805
D2654-5	Web	1 Ea (1 ea)	130-Skidtubes	5011680
D4720-1	Spacer	19 Ea (19 ea)	150-Skidtubes	5030687
ALS4-1032-130	Rivnut	54 Ea (54 ea)	220-HandFinish	5007279
CCR264SS3-3	Cherry Rivet	2 Ea (2 ea)	220-HandFinish	FM137622
CR3212-4-03	Cherry Rivet	2 Ea (2 ea)	220-HandFinish	FM137886-0
D2646BL	Aft Cap	1 Ea (1 ea)	220-HandFinish	5013553
D2651-1BL	Plug	14 Ea (14 ea)	220-HandFinish	5013109
D2651-3	O-Ring	14 Ea (14 ea)	220-HandFinish	5027453
D2680-041	Nut Plate	1 Ea (1 ea)	220-HandFinish	5013112
D3537-1	Wearpad	6 Ea (6 ea)	220-HandFinish	5097219
D3537-3	Wearpad	1 Ea (1 ea)	220-HandFinish	5013552
D4956-11	Wearplate Fwd	1 Ea (1 ea)	220-HandFinish	5037779
D4956-23	Wearplate Center Fwd	1 Ea (1 ea)	220-HandFinish	5089816
D4956-35	Wearplate Aft	1 Ea (1 ea)	220-HandFinish	5057063
MS27039-1-08	Screw	2 Ea (2 ea)	220-HandFinish	5043210
MS27039-4-06	Screw	1 Ea (1 ea)	220-HandFinish	FM137951-1
MS27039C1-08	Screw	54 Ea (54 ea)	220-HandFinish	5036485
NAS1149C0332R	Washer	54 Ea (54 ea)	220-HandFinish	41 x 5089465 / 13 x 513013
NAS1149D0332J	Washer	2 Ea (2 ea)	220-HandFinish	5100407-1
NAS1149D0463J	Washer	1 Ea (1 ea)	220-HandFinish	5055952

M.A. 006870

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D2620	1	17	0
110-Skidtubes	D2647	1	29	0
130-Skidtubes	D2654-5	1	5	0
150-Skidtubes	D4720-1	19	296	0
220-HandFinish	ALS4-1032-130	54	11,223	0
	CCR264SS3-3	2	306	0
	CR3212-4-03	2	182	0
	D2646BL	1	6	0
	D2651-1BL	14	135	0
	D2651-3	14	609	0
	D2680-041	1	37	0
	D3537-1	6	210	0
	D3537-3	1	42	0
	D4956-11	1	18	0
	D4956-23	1	27	0
	D4956-35	1	16	0
	MS27039-1-08	2	380	0
	MS27039-4-06	1	31	0
	MS27039C1-08	54	495	0
	NAS1149C0332R	54	3,265	0
	NAS1149D0332J	2	1,945	0
	NAS1149D0463J	1	3,231	0

Part Specifications

Specifications could not be found.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

QTY -1	QTY -3	QTY -5	QTY -7	PART NUMBER	DESCRIPTION
X				D2650-1	SKIDTUBE ASSEMBLY
	X			D2650-3	SKIDTUBE ASSEMBLY
		X		D2650-5	SKIDTUBE ASSEMBLY
			X	D2650-7	SKIDTUBE ASSEMBLY
1	1	1	1	D2600-1-160	EXTRUSION
1				D2654-1	WEB
	1			D2654-3	WEB
		1		D2654-5	WEB
			1	D2654-7	WEB
1	1	1	1	D2646	AFT CAP
1	1	1	1	D2647	CAP
17	18	19	23	D2649	CROSS BOLT SPACER
16	18	14	22	D2651-1	PLUG
16	18	14	22	D2651-3	O-RING
1	1	1	1	D2680-041	NUT PLATE
2	2			D3286-1	DOUBLER
2	2			D3286-3	STUD
42	44	54	60	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, ALS7-1032-130)
2	2	2	2	AN960JD10L	WASHER
2	2	2	2	CCR264SS3-3	RIVET
2	2	2	2	CR3212-4-03	RIVET
2	2	2	2	MS27039-1-08	SCREW
1	1	1	1	MS27039-4-06	SCREW
1	1	1	1	AN960JD416	WASHER
52	52			CR3212-4-04	RIVET

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 186096 MW
18-11-09

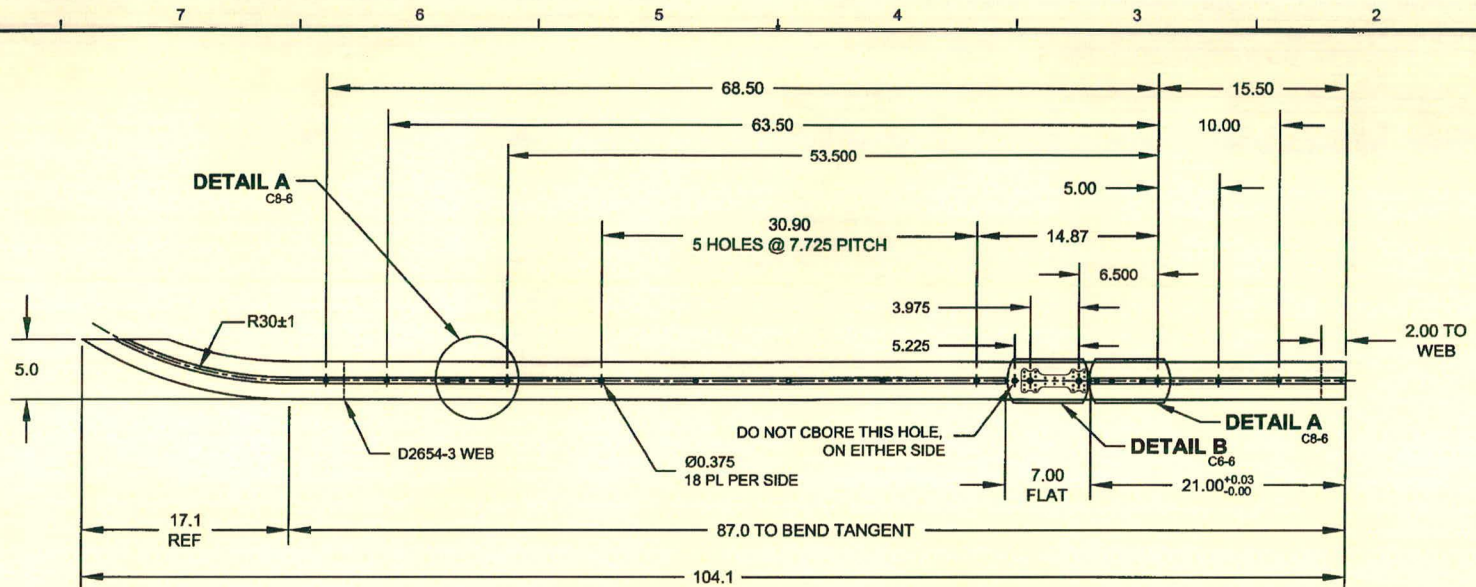
DEO ATTACHED

RELEASED
08-07-23

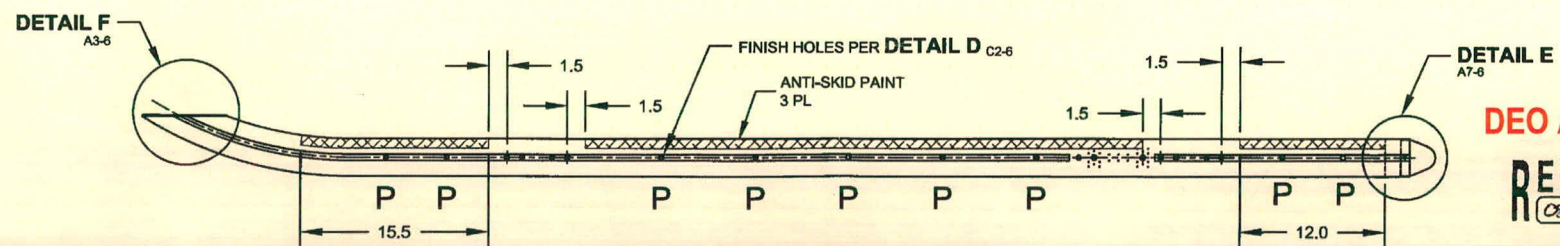
NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: -CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
-POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
-BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: N/A
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 10) BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015
- 11) INSERT D2651-1 PLUG C/W D2651-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE)
- 12) DRILL Ø0.297 FOR ALS7-1032-130 INSERTS USING TEMPLATE DT8056-1 ON -1 TUBE, DT8056-3 ON -3 TUBE, DT8056-5 ON -5 TUBE, AND DT8056-7 ON -7 TUBE. INSTALL INSERTS AFTER FINISH.
- 13) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

F	DRAWING UPDATED TO CURRENT STANDARDS. SHT 6 ADDED. ALL SECTION AND DETAIL VIEWS TRANSFERRED TO SHT 6. SHT 1 IN PL PART D2649 QTY UPDATED. SHT 6 SECT C-C GRIND INSTRUCTIONS DELETED FROM NOTE 7 (SEE NCR 239).	AJS	08.08.08
E	RMOVE CBORE, CHG DRILL, ADD CHAMFER	CP	08.03.30
D	REDRAW; INCCRP. DE09136/9153/9163 MOD GROUND HANDLING ON D2650-1/-3	CP	04.05.17
C	CHANGE HOLE PATTERN AND FRONT END	DS	97.10.29
B	AS MANUFACTURED CHANGES	DS	97.06.26
A	NEW ISSUE	DS	97.03.25
REV.	DESCRIPTION	BY	DATE
DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 1 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
DATE	08.08.08	COPYRIGHT © 1997 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	



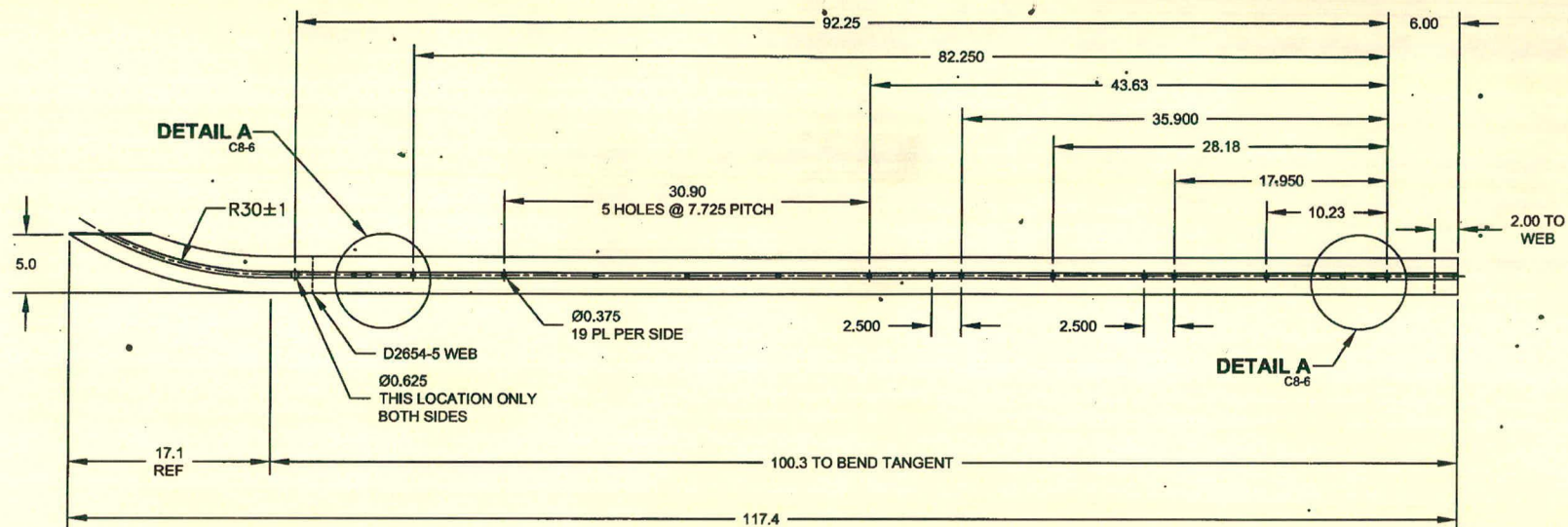
D2650-3 BENDING/DRILLING DETAIL



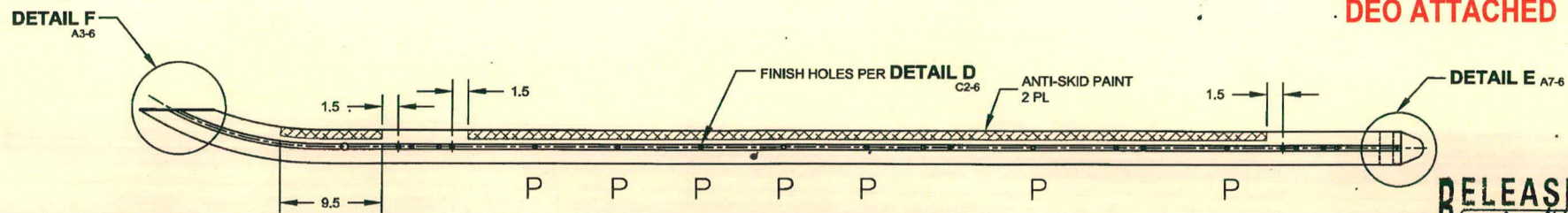
D2650-3 ASSEMBLY/FINISHING DETAIL

**DEO ATTACHED
RELEASED**
08 07 22 1116

DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 3 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
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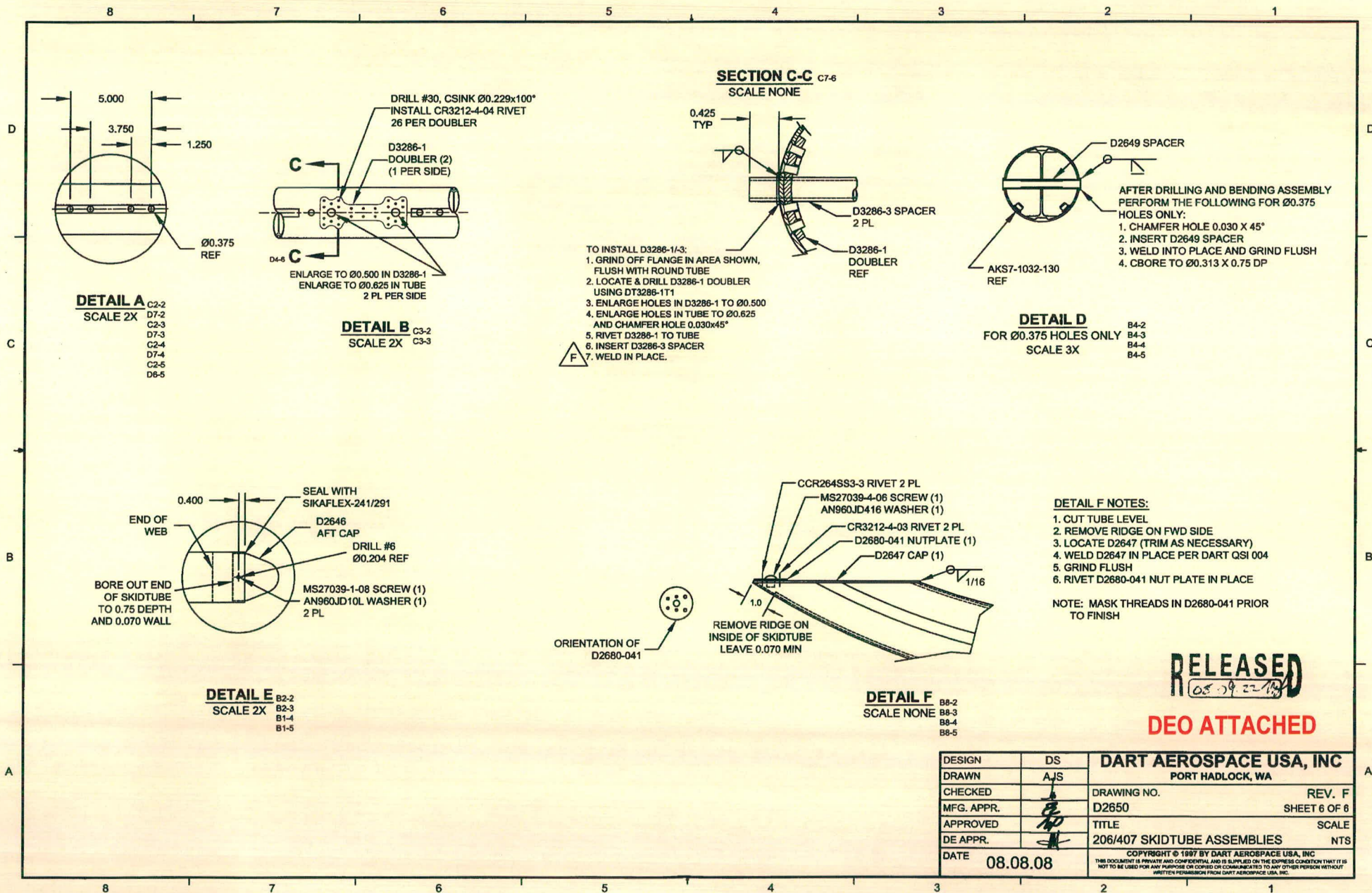
D2650-5 BENDING/DRILLING DETAIL



D2650-5 ASSEMBLY/FINISHING DETAIL

DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 4 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
DATE	08.08.08	COPYRIGHT © 1997 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

RELEASED
08.09.22/17



DRAWING NO. D2650	TITLE 206/407 SKIDTUBE ASSEMBLIES	REV. F	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D2650-F-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>JP</i>	CHECKED <i>A.P.</i>	MFG. APPR. <i>AA</i>	APPROVED <i>##</i>		DE APPR. <i>##</i>		
DATE 12.10.12	DATE 12.10.22	DATE 12.10.22	DATE 12.10.22		DATE 12.10.22		

PURPOSE:

CHANGE C'BORED WELDED CROSSBOLT SPACERS TO SWAGED SPACERS

CHANGE:

PARTS LIST IS AMENDED AS FOLLOWS:

IS:

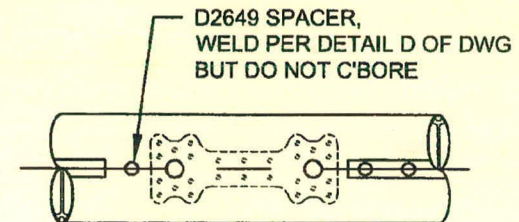
QTY -1	QTY -3	QTY -5	QTY -7	PART NUMBER	DESCRIPTION
1	1	0	0	D2649	CROSS BOLT SPACER
16	17	19	23	D4720-1	SPACER

WAS:

17	18	19	23	D2649	CROSS BOLT SPACER
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ADD DETAIL G BELOW, WHICH IS THE SAME SECTION VIEW AS DETAIL D OF DWG.

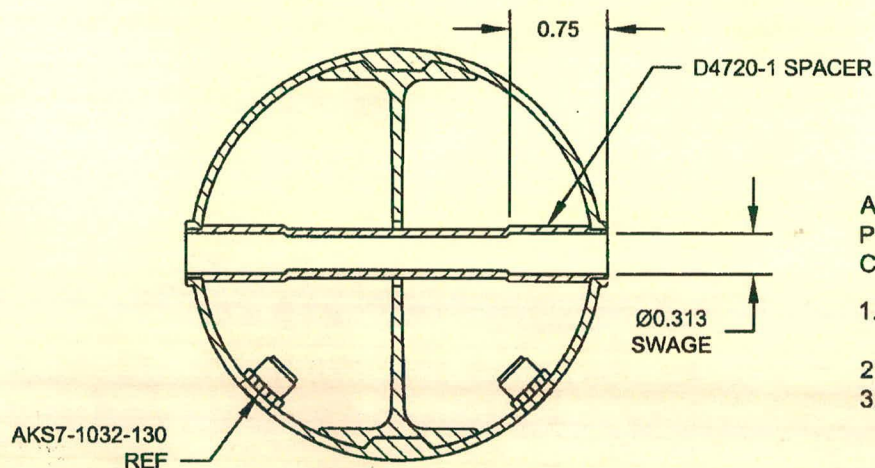
C'BORED HOLES ARE **NOW SWAGED** PER DETAIL G BELOW. FOR THE Ø0.375 HOLE THAT IS NOT C'BORED, WELD PER DETAIL D OF DWG (SEE AMENDED DETAIL B FOR REFERENCE).



DETAIL B

AMENDMENT TO DETAIL B
NOT TO SCALE

RELEASED
2012-11-16
WJ



DETAIL G

FOR Ø0.375 HOLES ONLY
FOR HOLES THAT ARE CURRENTLY C'BORED ONLY
NOT TO SCALE

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.375 HOLES THAT ARE
CURRENTLY C'BORED:

1. INSERT D4720-1 SPACER, 16 PL (-1) OR 17 PL (-3)
OR 19 PL (-5) OR 23 PL (-7)
2. SWAGE TO Ø0.313 X 0.75 DP PER QSI 002
3. TRIM / GRIND FLUSH PER QSI 002



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO041917**

Supplier: ATE003-VC
Atelier Debosselage
358 Principale
Calumet
QC
J0V 1B0 Canada
Phone: 819 242 5633

PO No: PO041917
PO Date: 12/3/18
Due Date: 12/10/18
Purchase Order Revision:
Revision Date:
Ship-To Contact: Tsimiklis, ChrisoulaPhone:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	186104	D2933-2BL	Saddle RH In, 206 : Various STC's ***MASK ALL HOLES AS PER PAR16-484*** ISSUE PO	Firmed	-	12/10/18	3 pcs	0 pcs	3 pcs	\$25.00/pcs	\$75.00
2	186096	D206-642-341BL	Replacement Skidtube (Fits LH or RH) : TC STC SH98-4 Issue 2, FAA STC SA00475SE 15/10/28, EASA STC EASA.IM.R.S.01320 Revision 1 07/09/10, JCAB JAPAN STC-102-TYO 00/09/25, ARGENTINA CTS- 0212.12(A) 02/12/26, BRAZIL 2009S08-21 09/09/02, BRAZIL 2009S08- 22 09/09/02 ISSUE PO Prime and Paint DELFLEET BLUE	Firmed	-	12/10/18	1 pcs	0 pcs	1 pcs	\$225.00/pcs	\$225.00
	186098		X DEC 04 2018	Firmed	-	12/10/18	1 pcs	0 pcs	1 pcs	\$225.00/pcs	\$225.00
	186094		X DEC 04 2018	Firmed	-	12/10/18	1 pcs	0 pcs	1 pcs	\$225.00/pcs	\$225.00
	186095		X DEC 04 2018	Firmed	-	12/10/18	1 pcs	0 pcs	1 pcs	\$225.00/pcs	\$225.00
Sub Total:							4	0	4		\$900.00

Grand Total: \$975.00



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO041917

Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 12/3/18 10:33 AM dart.tsimiklis.chrisoula

